Remarks:

Reconsideration of the application is requested.

Claims 1-7 remain in the application. Claim 7 has been amended. A marked-up version of claim 7 is attached hereto on a separate page. The specification has been amended to include the protective barrier and the structural elements producing heat or cold. A marked-up version of the specification is attached hereto on a separate page. Fig. 1 has also been amended to show the protective barrier "8" and the structural elements "9".

In item 2 on page 2 of the above-identified Office action, claims 6 and 7 have been rejected as being indefinite under 35 U.S.C. § 112.

More specifically, the Examiner has stated that it is not seen how the resistor can include other structural parts and a barrier between adjacent structural parts where there is no depiction for the structural relationship claimed. The Examiner continued to state that a resistor is claimed, not its surrounding, but surroundings seem to be claimed, so that the claim is not clear. Claim 7 has been amended so as to facilitate prosecution of the application. Claim 7 now calls for a resistor assembly comprising a resistor and a protective

barrier between the resistor and structural parts, as illustrated and described in the specification. Therefore, the rejection is now moot.

The Examiner stated that in claim 6 it is not seen how the leads can be both rolled and parallel as claimed in claim 1 above. It is noted regarding claim 6, that the leads according to claim 6 are a stacked configuration of the leads, between which an electrically insulating layer that is a good thermal conductor, is located. These three levels run at equal distance to one another, which means that they are parallel to one another. Subsequently, this stack comprising three layers is wound to a cylinder. The three levels are then still at an equal distance from one another, which means they are parallel to each other. Therefore, claim 6 is clear and has not been amended.

In item 4 on page 2 of the above-identified Office action, claims 6 and 7 have been rejected as being indefinite under 35 U.S.C. § 112.

More specifically, the Examiner has stated that there is insufficient disclosure for reasons noted above. As stated above, claim 7 has been amended in order to facilitate prosecution. Therefore, the rejection of claim 7 is now moot.

Regarding claim 6, as stated above claim 6 has not been amended as it is clear for the reasons given above.

It is accordingly believed that the specification and the claims meet the requirements of 35 U.S.C. § 112, first and second paragraphs. Should the Examiner find any further objectionable items, counsel would appreciate a telephone call during which the matter may be resolved. The above-noted changes to the claims are provided solely for cosmetic or clarificatory reasons. The changes are not provided for overcoming the prior art nor for any reason related to the statutory requirements for a patent.

In item 6 on page 3 of the Office action, claims 1-3 and 6 have been rejected as being fully anticipated by Smith Jr. (U.S. Patent No. 3,474,375) under 35 U.S.C. § 102.

In item 7 on page 3 of the Office action, claims 1-3 and 6-7 have been rejected as being fully anticipated by Ting et al. (U.S. Patent No. 3,824,328) under 35 U.S.C. § 102.

In item 8 on page 3 of the Office action, claims 1 and 6-7 have been rejected as being fully anticipated by McLaughlin (U.S. Patent No. 490,082) under 35 U.S.C. § 102.

In item 9 on page 4 of the Office action, claims 1 and 4-5 have been rejected as being fully anticipated by Mazochette (U.S. Patent No. 6,016,085) under 35 U.S.C. § 102.

In item 10 on page 4 of the Office action, claims 1 and 4 have been rejected as being fully anticipated by Nagai (JP 2-275601) under 35 U.S.C. § 102.

As will be explained below, it is believed that the claims were patentable over the cited art in their original form and the claims have, therefore, not been amended to overcome the references.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, inter alia:

"electrically conductive power supply leads designed as busbars; and

an electrically insulating layer configured between said power supply leads;

said electrically insulating layer being a good thermal conductor". Claim 7 recites similar limitations.

The object of the present invention is to provide a resistor, which is used as a current voltage converter for measuring current. In particular, it is an object of the invention to construct an electrical resistor in such a way that thermal voltages cannot occur or are significantly reduced, with the result that their effects do not impair the measurement result or only impair it to an insignificant extent (page 3, line 22 to page 4, line 2). To this end a resistor is provided with separate supply leads which are embodied such that a thermal coupling or thermal short is produced between the supply leads. Therefore, the two connections of the resistor are at the same temperature level. This is accomplished by providing the electrical resistor with separate leads (4, 4'), which are embodied such that a thermal coupling or a thermal short circuit is produced between the leads, which puts the two connections of the resistor at the same temperature level (page 5, lines 18-21).

None of the cited references discloses an electrical resistor having electrically conductive power supply leads(4, 4') embodied as busbars which run parallel to one another, the power supply leads having an electrically insulating layer (5) that is a good thermal conductor between the leads.

The references do not show electrically conductive power supply leads designed as busbars, and an electrically insulating layer configured between said power supply leads, said electrically insulating layer being a good thermal conductor, as recited in claims 1 and 7 of the instant application. None of the references cited solves the problem of the present invention, of preventing or essentially reducing the appearance of thermal voltages.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 1 or 7. Claims 1 and 7 are, therefore, believed to be patentable over the art and since all of the dependent claims are ultimately dependent on claim 1, they are believed to be patentable as well.

In view of the foregoing, reconsideration and allowance of claims 1-7 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel respectfully requests a telephone call so that, if possible, patentable language can be worked out.

Please charge any other fees which might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner & Greenberg P.A., No. 12-1099.

Respectfully submitted,

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For Applicant(s)

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Marked-up version of the claims:

Claim 7 (amended). [The electrical resistor according to claim 1, comprising:

a protective barrier made of a thermally nonconductive material;

said protective barrier configured between adjacent structural parts that produce heat or cold.]

An electrical resistor assembly, comprising:

an electrical resistor to be protected from adjacent structural parts producing heat or cold, said electrical resistor including:

a resistance zone;

connections;

electrically conductive power supply leads constructed as busbars; and

an electrically insulating layer configured between said power supply leads;

said electrically insulating layer being a good thermal conductor;

said power supply leads connected to said connections;

said power supply leads running parallel to one another;

said power supply leads have ends remote from said resistance zone;

said ends of said power supply leads being constructed as connection contacts; and

a protective barrier made of thermally non-conducting material disposed between said electrical resistor and the adjacent structural parts producing heat or cold.

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Marked-up version of the specification:

Replace the paragraph between page 7, line 23 and page 8, line 15 with the following:

--Referring now to the figures of the drawing in detail and first, particularly, to Fig. 1A thereof, there is shown a longitudinal section through an electrical resistor 1 having a resistance zone 2 for example, made of manganin (metal alloy). Connections 3 and 3', for example. made of copper are connected to the resistance zone 2. Power supply leads 4 and 4', for example, likewise made of copper, are designed as busbars which run parallel to one another and between which is arranged an electrically insulating layer 5 that is a good thermal conductor. The power supply leads 4 and 4' are connected, for example soldered, to the connections 3, 3'. The dimensioning of the power supply leads 4 and 4' should be chosen such that they correspond in width and thickness at least to the dimensions of the connections 3, 3', but are advantageously as large as possible in order to ensure a good thermal coupling between the two connections 3, 3'. The power supply leads 4, 4', at the end remote from the resistor 1, can be designed as connection contacts 6, 6', for example, as plug-in or soldering contacts. Protective barriers 8 made of thermally nonconductive material are configured between the

resistor 1 and adjacent structural parts 9 that produce heat or cold.